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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,164	03/26/2001	Hiroshi Nomura	04329.2555	7582
22852	7590	05/06/2004	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 1300 I STREET, NW WASHINGTON, DC 20005			STOCK JR, GORDON J	
			ART UNIT	PAPER NUMBER
			2877	

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/816,164

Applicant(s)

NOMURA, HIROSHI

Examiner

Gordon J Stock

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 12-14 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 is/are allowed.
- 6) ☒ Claim(s) 9-11, 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 15** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The term "close" in **claim 15** is a relative term which renders the claim indefinite. The term "close" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "close" renders the dimensions of the patterns relative to the resolution limit indefinite.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 9-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ota et al. (5,568,267)** in view of **Dirksen et al. (5,674,650)**.

As for **claims 9-11**, Ota in an adjusting device for an alignment apparatus discloses the following: an illumination and projection system with an evaluation mark formed on the wafer, a wafer mark and an evaluation mark on the stage, a fiducial mark (Fig. 3). Rotatable diaphragms are disclosed which regulate the illumination beams (Figs. 8, 9). As for being removable, this is suggestive for they may be at differing locations in the vicinity of the wafer conjugate plane

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corresponding to the back focus of lens 14 (col. 22, lines 39-45). As for shield areas, the apertures control the illumination area of the beam (col. 15, lines 20-60). Therefore, it would be obvious that the apertures comprise shielding areas for the aperture controls illumination area; whereas, the illumination area is transmitted through the aperture and the light not in the slit-shaped area being shielded. As being asymmetric to normal light, the non-aperture area of the diaphragm is at least asymmetrical to the aperture area where the light is transmitted (Figs. 8 and 9). And the shape of these shielded areas are asymmetric compared to the imaged areas of the gratings (Figs. 10-11). As for it being in a pupil, Ota suggests that it is, for they are in a back focus of a lens (col. 22, lines 39-45). Dirksen in a method of imaging in a projection device states the exit pupil is in the back focal plane of a lens (col. 13, lines 45-65). Therefore, it would be obvious to one skilled in the art that the diaphragms are in an exit pupil, for they are in a plane conjugate to the wafer's plane and this plane comprises the back focus of a lens.

The recitation, "microscope," has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Response to Arguments

6. Applicant's arguments, see Remarks, filed February 9, 2004, with respect to claims 1-11 have been fully considered and are persuasive. The rejections under 35 U.S.C. 103(a) of claims 1-11 has been withdrawn. However, after further consideration of Ota et al. (5,568,257) and upon further search, a new rejection for claims 9-11 has been made. See above.

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Allowable Subject Matter

7. **Claims 1-8** are allowed.

8. **Claim 15** would be allowable if rewritten to overcome the rejection(s) under 35

U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

As to **claim 1**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of measuring a displacement of an optical axis of an optical microscope the particular step of measuring the displacement of the optical axis, in combination with the rest of the limitations of **claims 1-8, and 15**.

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and

2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431. The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gs

April 28, 2004


Zandra V. Smith
Primary Examiner
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